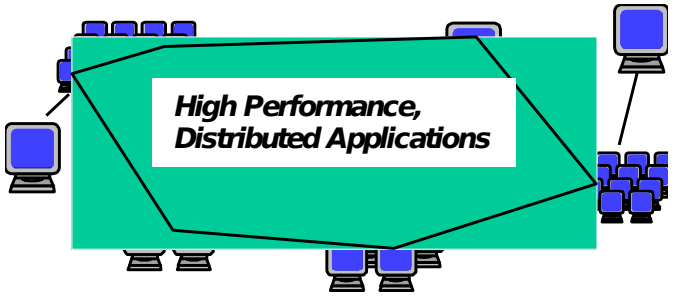
High Performance Virtual Machines (HPVMs)



High Performance Virtual Machines enable parallel applications on distributed resources. HPVM's provide performance stability and standard API's to simplify programming for a dynamic environment.

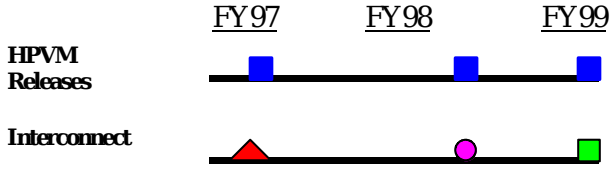
New Ideas

- Simplify high performance distributed applications programming
  - combine API's and stable performance
  - leverage parallel applications&tools to distributed environments
- Innovative middleware architecture
  - coordinated resource management for predictable performance with
  - leverage commodity software elements (OS,applications)
- Integrated multi-level effort with commercial compilers (PGI HPF) and performance tools deliver rich software environment for applications

Impact

- Enable and accelerate integration of next-generation high performance and distributed applications by delivering fundamental technologies for coordinated resource management and stable performance models.
- Demonstrate and prototype technologies for portable, high performance distributed applications, enabling design, simulation, and deployment activities
- Demonstrate a unified computing and communication infrastructure for integrating distributed and HPC applications

Schedule



HPVM Interfaces	Interconnects
Ver 1.0: Message Passing + Global Address	Myrinet
Ver 2.0: +Communication QoS	+Servernet
+Distributed Computation QoS	
Ver 3.0: +High Performance Fortran	+Wide Area
+Resource Adaptation	(ATM and IPv6)

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